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ABSTRACT

Compiled is a selected bibliography of social sciences in forestry, including economic, historic, sociological, and business aspects. Five major inclusive categories are the following: (1) social science applied to forestry at large; (2) applied to forestry's productive agents; (3) applied to forest production; (4) applied to manufacturing; and (5) applied to marketing, trade, and demand for forest output. Arranged alphabetically by author, each entry contains the source of information, place and date of publication, volume number, and number of pages. A brief description of each resource is given. Compilation sources include many periodical professional journals, "Forestry Abstracts," "Dissertation Abstracts," the "USDA Bibliography of Agriculture," "FAO Documentation," and publication lists from the United States Forest Service experiment stations. (BE)

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SOCIAL SCIENCES in FORESTRY

A CURRENT SELECTED BIBLIOGRAPHY

NO. 49 JUNE 1979

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SCHOOL OF FORESTRY & WILDLIFE RESOURCES
VIRGINIA POLYTECHNIC INSTITUTE & STATE UNIVERSITY
BLACKSBURG 24061

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Takuro Kishine
Kyoto, Japan

Anne Lauby, Editor

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
School of Forestry and Wildlife Resources
Department of Forestry
Blacksburg, Virginia 24061

SOCIAL SCIENCES IN FORESTRY

Subject-Matter Classification Scheme

Note: This outline is regarded as working for the most part from the general to the specific. Material covering two or more sections of this outline is classified in the most general of these sections. Material which is classifiable in any of two or more sections is classified in the most specific of these sections.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

A General principles, scope, content, method

B History, status, prospects of forestry in an area, society in an area (This section includes material on forest resources alone, as opposed to that on consumer or intermediate resources alone, for which see appropriate later sections.)
1 General
2 United States, Canada
3 Other north-temperate nations
4 South-temperate nations
5 Nations in lower latitudes

C Law, politics, policy, plan, program, and their administration

D Other influences
1 Taxation
a General
b Property, general and special; severance; lieu payment
c Income, inheritance, other
2 Valuation [See also IIIA5a(5).]
3 Insurance
4 Social interest, value system, custom, folklore, culture
5 Characteristics of the individual
6 Public relations, other

E Research (For research on specific topics, see those topics.)

F Professional and subprofessional affairs, education, employment of foresters

G Social and economic development (See also IB.)

H Environmental concern

Subject-Matter Classification Scheme--Continued

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS
(See also the individual operation or type of output in III, IV, V.)

A Labor (Some material on labor will be found in IF, IV.)
1 General, employment, demand
2 Supply, union
3 Wage, cost, hours, productivity, technology, training, return, benefit
4 Working condition, turnover, absenteeism, safety, insurance
5 Characteristics of the worker

B Owner, ownership, manager, entrepreneur, holding (See also IC, IIC3.)
1 General
2 Public
a General
b Federal, central
c Regional, local
3 Private
a General
b Industrial
c Nonindustrial

C Land
1 Context of supply, requirement, etc.
2 Description, use trend and status, interpreted description
3 Management, use prospect and plan, planning, marketing, tenure
4 Research method

D Capital
1 General, investment, interest, finance
(For investment in forest production, see IIIE; for that in manufacturing, see IVA4.)
2 Credit

III APPLIED TO FOREST PRODUCTION (See also IIB, C.)

A Production including nontimber commodities and services
1 General, supply, multipurpose management
2 Christmas trees, greens
3 Range and livestock
4 Naval stores, maple product
5 Recreation
a General
(1) General
(2) Research
(3) Decision making, planning, management
(4) Demand, consumer, market
(5) Valuation

Subject Matter Classification Scheme--Continued

III APPLIED TO FOREST PRODUCTION--Continued

A Production including nontimber commodities and services--Continued
5 Recreation--Continued
b Driving, on or off road
c Walking, hiking, horseback riding, nature study
d Picnicking
e Camping
f Wilderness activities
g Amenity values
h Other recreation activity
6 Water, soil, watershed management, shelterbelts
7 Wildlife, hunting, fishing
8 Urban forestry

B Production chiefly of timber
1 General, supply
2 Soil, site, site improvement
3 Tree regeneration and improvement
4 Intermediate cutting, pruning, stand improvement
5 Harvest cutting, rotation, cutting cycle, stocking, regulation, allowable cut
(For harvesting treated as engineering, see IVB.)

C Roads, other forest-management transportation
(For transportation in harvesting, see IVB4; in manufacturing and marketing, see VD.)

D Damage and protection
1 From fire
2 Prescribed burning
3 From insects
4 From other agencies
(For water damage and soil erosion, see IIIA6.)

E Decision making, planning, investment, accounting, inventorying
(For investment in general, see IID1.)

IV APPLIED TO MANUFACTURING
(For material on forestry in general, including forest land resources, see IB.)

A The industry in general
1 Status and trend
a General
b United States, Canada
c Other north-temperate nations
d South-temperate nations
e Nations in lower latitudes

Subject-Matter Classification Scheme--Continued

IV APPLIED TO MANUFACTURING--Continued
- A The industry in general--Continued
  - 2 Directory
    (Includes those covering specific branches of industry.)
  - 3 History
  - 4 Decision making, planning, investment, accounting, inventorying
    (For a specific branch of industry, see that branch, "Operation of firm"; for investment in general, see IID1.)

- B Timber-harvesting industry
  (Includes roundwood in general; for specific types, see IVC, "raw material." For harvesting as silviculture, see IIIB4, 5.)
  - 1 Status and trend
  - 2 Operation of firm
  - 3 Utilization of the stand or tree
    (For utilization of a specific product, see the branch of industry in question.)
    - a General
    - b Logging residue and its disposal
  - 4 Transportation (Skidding, yarding, loading, hauling to mill. For transportation in forest management, see IIIC; in manufacturing and marketing, see VD.)

- C Wood-using industry
  - 1 Lumber, allied product, pallet
    - a Industry status and trend
    - b Production, consumption, stocks, other statistics
      (For sawtimber, see IB, IVB; for sawlog, see IVC1d.)
    - c Operation of firm
    - d Raw material
  - 2 Pulp, paper, board
    - a Industry status and trend
    - b Operation of firm
    - c Raw material
    - d By-products
  - 3 Veneer, plywood, panel
    - a Industry status and trend
    - b Operation of firm
    - c Raw material
  - 4 Bark, chips, other residue
    (See also IVB3 and the industry branch in question, "Operation of firm.")
  - 5 Pole, piling, post, mine timber
  - 6 Railway tie
  - 7 Furniture
  - 8 Charcoal, fuelwood, other combustibles; energy
  - 9 Particleboard, hardboard, fibreboard
  - 10 Construction
  - 11 Other wood-using industry

Subject-Matter Classification Scheme--Continued

IV APPLIED TO MANUFACTURING--Continued

D Other forest industry
1 Decorative product
2 Naval stores
3 Maple product
4 Other

V APPLIED TO MARKETING, TRADE, DEMAND FOR FOREST OUTPUT
(For marketing and demand for productive agents, see II.)

A Demand (See also IF.)
1 General; history of consumption; consumption-production relationships
2 Consumption or production prospect, goal, requirement, prediction
(For material on short-term requirement, see the industry in question in IV, "Industry status and trend.")
3 Consumer and his preference
(For material on specific forest resources, see also IIIA, B.)

B Market, marketing, trade, export, import
1 General
a General
b Futures, hedging
2 Stumpage, log
3 Lumber, plywood, allied products
4 Pulp, paper, board
a Product
b Raw material
5 Other wood products
6 Christmas trees, greens
7 Other type of output (See also IIC3.)

C Price, value
1 General
2 Stumpage, log
3 Other type of output
4 Price reporting

D Transportation (Includes transportation in manufacturing.)
(For transportation in forest management, see IIIC; in harvesting, see IVB4.)

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

A MC GUIRE, JOHN R. Eighth World Forestry Congress. Journal of Forestry 77(2): 68-71. Feb 1979

Theme of the October 16-28, 1978 Congress: "Forests for People." Emphasized the importance of forests to people of developing nations, particularly the rural poor. Stressed working for change within the cultural and economic constraints of individual countries. Five subthemes of the Congress: forestry for rural communities, forestry for food, forestry for employment promotion, forestry for industrial development, and forestry for quality of life.

A STODDARD, C. H. Essentials of forestry practice. Third edition. John Wiley & Sons Ltd., New York. 400 pp. 1978.

Comprehensive coverage of basic and practical methods throughout the entire field from timber growing to processing. Includes: environmental impacts, forest policy, forests as sources of renewable energy, multiple-use management techniques, recreational area management, results of recent research, future research problems, history of forest policies, basic management techniques.

B1 NAUTIYAL, J. C. The place of forestry in the energy question. Canadian Journal of Forest Research 9(1): 68-75. Mar 1979.

Existing forests cannot meet energy needs in industrialized nations. Forests can, however, supplement other energy sources in certain situations. Energy farming may be one way for forestry to make a significant long-term contribution to energy supply.

B2 BOLSINGER, CHARLES L. Forest area and timber resources of the San Joaquin resource area, California. USDA Forest Service Pacific Northwest Forest and Range Experiment Station Res. Bull. PNW-75, 71 pp. 1978.

Forest area, timber volume, and the present and future timber situations of 14 counties in central California.

B2 BONES, JAMES T. The forest resources of West Virginia. USDA Forest Service Northeastern Forest Experiment Station Res. Bull. NE-56, 106 pp. 1978.

Statistical and analytical report of the third forest survey of West Virginia. Trends in forest land area, timber volume, annual growth, and timber removals. Timber products output by forest industries, importance of timber and forests to the state's economy and environment, outlook for timber supplies for the next 30 years.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

B2 BRODIE, J. DOUGLAS, ROBERT O. MC MAHON, and WILLIAM H. GAVELIS. Oregon's forest resources, their contribution in the state's economy. Oregon State University, School of Forestry, Forest Research Laboratory Res. Bull. 23, 80 pp. Sep 1978.

Oregon's forest resources, industry, and economy. Information on timber production, logging, lumber, veneer and plywood, particleboard, hardboard, insulation board, pulp and paper, exports, environmental impacts, recreation, fish and wildlife.

B2 CHEEK, GEORGE C. The mechanics and economics of supply, past and present. Northern Logger and Timber Processor 27(5): 6-7, 36, 39, 40. Nov 1978.

New England's forests: how they were used, how they are used, and how they could be used.

B2 CHOONG, ELVIN T., and JIM L. CHAMBERS (EDS). Energy and the Southern forest. Louisiana State University, Division of Continuing Education. 170 pp. 1978.

Thirteen papers, presented during the 27th Annual Forestry Symposium at Louisiana State University in 1978, focus on: impact of the energy crisis on forestry, forest as an energy base, silvicultural and harvesting procedure for efficient energy utilization.

B2 CRAVER, GERALD C. Forest statistics for the Northern Coastal Plain of South Carolina 1978. USDA Forest Service Southeastern Forest Experiment Station Res. Bull. SE-47, 33 pp. 1979.

The following have increased since 1968: area of commercial forest land, softwood and hardwood growing stock, and the area of commercial forest land occupied by pine. Farmer-owned woodland acreage has decreased.

B2 CROKER, THOMAS C., JR. The longleaf pine story. Journal of Forest History 23(1): 32-43. Jan 1979.

History of the longleaf pine in the U.S. South: the virgin forest, man and the forest, turpentiners, river era, railroad loggers, Great Depression, second forest, and a place in the sun.

B2 FORESTS & PEOPLE. A forestry profile, southeast Louisiana. Forests & People 29(1): 10-16. 1979.

Forestry community: primary and secondary wood-using industries, service and supply industries, forest landowners, consumers.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

B2 GREEN, ALAN W. Timber resources of western South Dakota. USDA Forest Service Intermountain Forest and Range Experiment Station Res. Bull. INT-12, 56 pp. 1978.

Forest area, timber volume, growth, mortality, and removals.

B2 KNIGHT, HERBERT A. The South is losing its pines. Forest Farmer 38(2): 10-11, 30. Nov/Dec 1978.

Over a 10-year period, the South experienced a net loss of 7 million acres in pine forests. Greater regeneration efforts are needed to offset mounting losses of pine acreage to low quality hardwoods.

B2 MUNRO, J. J. The urgent need for forest investments. Pulp and Paper Canada 79(12): 85-86, 88. Dec 1978.

International Woodworkers of America offers to cooperate with management in getting security of tenure and a stronger role for private industry in Crown forests.

B2 OSWALD, DANIEL D. Propsects for sawtimber output in California's North Coast, 1975-2000. USDA Forest Service Pacific Northwest Forest and Range Experiment Station Res. Bull. PNW-74, 20 pp. 1978.

Softwood sawtimber availability from both public and private lands. The next 25 years are a critical period for the region's softwood-based timber economy.

B2 SILVERSIDES, C. ROSS. Industrial forestry in a changing Canada. Forestry Program, the University of Alberta, Nov 17, 1977. Forest Industry Lecture Series No. 1, 16 pp. 1977.

Forest management for wood production rather than for water, wildlife, or recreation. One change taking place in Canadian forestry is the consideration of forest biomass as a source of energy.

B2 SMITH, DONALD. Private industry plays important role in Tennessee forest development. Forest Farmer 38(6): 10-11, 50-53. Apr 1979.

About 90 percent of the state's forest land is privately owned. Tennessee forests are currently producing at about half their capability. Recommendations of the Tennessee Committee on Forest Productivity.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

B2 STERNITZKE, HERBERT S., and ROBERT L. JOHNSON. Midsouth's changing hardwood forests. Forest Farmer 38(6): 12-13, 48-50. Apr 1979.

New timber assessments identify future supply problems in Arkansas, Louisiana, Mississippi, and Tennessee. Efforts to increase supply should be aimed at the private nonindustrial owner.

B2 THORYN, MICHAEL. Lumber and paper products, a sizable stake in the economy. Nation's Business 67(1): 55-58. Jan 1979.

Forestry and the forest industry in the U.S.

B2 TOOVEY, JACK W. Forest management participation can bring industry bottom line results. In English; Fre. sum. Pulp and Paper Canada 79(12): 89-91. Dec 1978.

All companies contracting to cut Crown timber should demand increases in allowable cut in return for increasing forest yield through silviculture.

B2 WALL, BRIAN R. Timber resources of the Sacramento area, California, 1972. USDA Forest Service Pacific Northwest Forest and Range Experiment Station Res. Bull. PNW-73, 62 pp. 1978.

Forest area, timber removals, volume, growth, and mortality. Timber resource and timber industry situation.

B2 WILLISTON, HAMLIN L. The problem of pine reforestation on southern independent forests. Forest Farmer 38(3): 10-11, 14-16. Jan 1979.

Approximately one-half of the pine stands harvested are not being adequately regenerated with pine. Recommendations of Southern Task Force on Pine Reforestation.

B2 WILLISTON, HAMLIN L. The South's pine reforestation problem. Journal of Forestry 77(4): 234-236. Apr 1979.

Pine sawtimber shortage could occur by the year 2000 if independent landowners continue to cut without planned regeneration. Fourteen recommendations of a task force.

B2 YOUNG, MAX J. Forest resources of Tennessee. Forest Farmer 38(6): 8-9, 46-48. Apr 1979.

Better fire control and more intensive management of nonindustrial private forest land have contributed to the increase of the state's forest resources. Tennessee forests contribute $2 billion annually to the state's economy. Approximately 63,000 Tennesseans are employed in forest industries and share an annual payroll exceeding $615 million.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

R2 ZOBEL, BRUCE. The challenges facing forestry in the South. Forest Farmer 38(2): 5, 37, 38. Nov/Dec 1978.

The South will continue to be the major wood producer for the United States and the world. Demands on the southern forest industry will continue to grow.

B3 CRAWFORD, D. B. Forestry in the national economy. Scottish Forestry 33(1): 29-36. Jan 1979.

Great Britain imports about 90 percent of its timber needs. Increased demand and higher prices will prohibit Great Britain from maintaining its present level of wood imports. Afforestation, the establishment of fiber forests, and capital grants for improving existing woodlands could increase wood production. The cooperation of upland farmers is needed.

B3 ERVASTI, SEPPO. The forest industry's wood raw material supply. In English. Finnish Paper and Timber 6, pp. 8-9. 1978.

B3 HOSOKAWA, T. Regional economic characteristics in the USSR. In Japanese. Forest Economy 31(8): 20-32. 1978.

B3 KUUSELA, KULLERVO. Forest resources and ownership in Finland 1971-1976. In Finnish; Eng. sum. Comm. Inst. Forestalia Fennica 93.6. 1978.

B3 RANTA, TAUNO. The importance of forestry and the forest industry for the Finnish economy. In English. Finnish Paper and Timber 5, pp. 5-7. 1978.

B3 SEPPALA, HEIKKI, JARI KUULUVAINEN, and RISTO SEPPALA. A simulation model for the Finnish forest sector. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Techniques and Forest Products, The Netherlands. pp. 75-80. 1978.

Long-range Finnish forest sector model analyzes future development alternatives.

B3 UUSITALO, MATTI. Finnish forestry during the MERA Programme period 1965-75. A review based on statistics. In Finnish; Eng. sum. Folia Forestalia 367, 89 pp. 1978.

Silvicultural and forest improvement activities, their costs and financing. Labor input, production, stumpage prices, gross stumpage earnings in forestry, wood consumption and production, and forest industries' exports.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

B4 CHAVASSE, C. G. R. Production values of native forests—water, wood, animals and tourism. New Zealand Journal of Forestry 23(2): 179-201. 1978.

New Zealand forests.

B5 GUPTA, TIRATH R. Nature of the environment for the forestry sector in India. In English; Hin., Ger., and Fre. sum. Indian Forester 104(12): 787-796. Dec 1978.

Economic, social, political, cultural, legal, administrative, and technological impacts on forestry in India. Overall environment does not encourage the desired growth of forestry.

B5 KORSGAARD, SVEND. A simulation model for forest sector development in Peninsualr Malaysia. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 114-120. 1978.

Simulation model for planning the phased development of forestry and primary forest industries in Peninsular Malaysia.

B5 PARDO, RICHARD. Southeast Asia, the disappearing forests. American Forests 85(4): 46-49, 54-56. Apr 1979.

If destruction of the tropical forests continues at its present rate, these forests could disappear within the next 60 to 85 years.

B5 RUDOLPH, VICTOR J., JOAO W. SIMOES, and LEE M. JAMES. Forestry in Brazil, an awakening giant. Journal of Forestry 76(12): 784-786. Dec 1978.

Brazil has cleared much of its natural forest except in the Amazon Basin, and has established large plantations of conifers and fast-growing eucalypts. To ensure adequate timber supplies for domestic use and planned export, it must develop the Amazon forest further and establish additional plantations. The government is instituting a forest research program and is improving the nation's forestry schools.

B5 TOMAR, M. S., and S. C. JOSHI. Madhya Pradesh forests and people's demands, a situation by 2000 A.D. In English; Hin., Ger., and Fre. sum. Indian Forester 104(10): 661-675. Oct 1978.

Existing wood resources, local demands for fuelwood and timber, projected demands by 2000, and additional plantation area needed to meet these demands.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

C ALLISON, B. J. Some aspects of forest planning. New Zealand Forest Products Ltd., Auckland, New Zealand. 219 pp. 1978.

C BROWN, GEORGE W. Oregon's Forest Practices Act, an early appraisal. Journal of Forestry 76(12): 782-783, 816. Dec 1978.

One of the act's major objectives was the protection of the State's water resources during forest operations such as harvesting, road construction, and chemical applications. Forest practice rules have been moderately effective in protecting water quality. They qualify as best management practices.

C FUJIWARA, S. The revival of the ideal forest concept for Japanese national forests. In Japanese. Forest Economy 31(8): 11-16. 1978.

Because of the devastation of the national forests, an ideal forest concept is necessary.

C HIGBIE, WESLEY R. A new act changes federal timber sale claims procedure. Forest Industries 106(1): 60-61. Jan 1979.

Contract Disputes Act of 1978 totally restructures the system for making claims and appeals relating to Forest Service timber sale contracts.

C HYDE, WILLIAM F., and DENNIS C. LE MASTER. The marginal lands provision. Journal of Forestry 77(1): 19-21. Jan 1979.

The marginal lands provision of the National Forest Management Act of 1976 requires the Secretary of Agriculture to "identify lands within the management area which are not suited for timber production" and to make sure that no timber harvesting occurs on these lands for a period of 10 years. The Forest Service is trying to establish criteria for identifying marginal lands. As a general criterion for decision-making, the authors propose maximization of net public benefits. These are direct benefits from timber production net of direct costs and equal to or greater than the opportunity costs incurred in creating the benefits.

C KISHINE, TAKURO. Forest policy. In Japanese. Norin-shuppan. 502 pp. 1975.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

Theoretical and applied studies of forest policy for multiple use in Japan. Three parts: (1) economic policy for securing the marketable products of forests; (2) policy for securing the nonmarketable services of forests; and (3) policy for coordinating the provision of marketable products and nonmarketable services. Discusses the theory of the formation of timber price, the concept of "nature-space-man systems," and mathematical models for multiple-use forest management.

C NAGLE, G. S. What is national forest policy in Canada? Forestry Chronicle 54(6): 291-295. Dec 1978.

Economics of the forestry sector, national economic strategy, federal and provincial powers, forestry agencies and foresters.

C SAHU, N. C., and B. DAS. An appraisal of the forest policy in Orissa. In English; Hin., Ger., and Fre. sum. Indian Forester 105(1): 41-49. Jan 1979.

New forest policy is concerned with growth, stability, environment, and recreation.

C UNITED STATES CONGRESS, HOUSE, Committee on Agriculture. Cooperative forestry assistance act of 1978, report to accompany H.R. 11777. House report, 95th Congress, 2nd session, no. 95-1183. 39 pp. 1978.

C UNITED STATES CONGRESS, HOUSE, Committee on Agriculture. Forest and rangeland renewable resources research act of 1978, report to accompany H.R. 11778. House report, 95th Congress, 2nd session, no. 95-1179. 20 pp. 1978.

C UNITED STATES CONGRESS, HOUSE, Committee on Agriculture. Renewable resources extension act of 1978, report to accompany H.R. 11779. House report, 95th Congress, 2nd session, no. 95-1184. 11 pp. 1978.

C UNITED STATES, LAWS, STATUTES, ETC. An act to direct the Secretary of Agriculture to carry out forest and rangeland renewable resources research, and for other purposes. Public Law 95-307. U.S. Government Printing Office, Washington. 1978.

C UNITED STATES CONGRESS, SENATE, Committee on Agriculture, Nutrition, and Forestry. Forest and rangeland renewable resources research act of 1978, report to accompany S. 3034. Senate report, 95th Congress, 2nd session. 18 pp. 1978.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

C UNITED STATES CONGRESS, SENATE, Committee on Agriculture, Nutrition, and Forestry. Renewable resources extension act of 1978, report to accompany S. 3035. Senate report, 95th Congress, 2nd session, no. 95-881. 13 pp. 1978.

C YOUNGDAY, DOUGLAS J., and ROGER D. FIGHT. Natural resource policy, the distributional impact on consumers of changing output prices. Land Economics 55(1): 11-27. Feb 1979.

Theoretical relation between policy and output prices, and the relation between output prices and consumer welfare. Methodology is applied to forest products.

D1a HART, C. E. Taxation of woodlands. Chenies, Coleford, Forest of Dean, Gloucestershire, England. vi + 26 pp. 1979.

Income tax; capital gains tax; value added tax; tax assessment; estate duty, being replaced by capital transfer tax; annual wealth tax proposals.

D1b HARGREAVES, L. A., JR. Where do we go from here with forest land taxes? Forest Farmer 38(2): 12-13, 34-36. Nov/Dec 1978.

Various special methods of taxing forest property have been developed. These methods may be classified into 4 types: exemption and rebate laws, modified property tax laws, yield tax laws, and severance tax laws.

D1c CONDRELL, WILLIAM K. Latest tax code revisions are generally favorable to forest farmers. Forest Farmer 38(2): 9, 25. Nov/Dec 1978.

P.L. 95-600, a bill signed by President Carter on November 6, 1978, provides many changes in the tax law which are favorable to timber owners. These include: a reduction in capital gains rates for both individuals and corporations, changes in the minimum tax for individuals, a 3-year dealy in the carryover basis rule, and exemption from taxation of cost-sharing payments made under the Forestry Incentives Program.

D1c WELLMAN, BRADFORD S. Estate planning. American Christmas Tree Journal 23(1): 44-45. Feb 1979.

Estate planning for tree farmers.

D2 KLEMPERER, W. DAVID. Inflation and present value of timber income after taxes. Journal of Forestry 77(2): 94-96. Feb 1979.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

Where a guiding rate of interest fluctuates with the inflation rate but remains constant in real terms, present values of future timber income after property taxes or yield taxes tend to be independent of inflation. After capital-gains taxes, present values decline with increases in the projected inflation rate.

D2 KLEMPERER, W. DAVID. Segregating land timber values from sales of uneven-aged forests. Appraisal Journal 47(1): 16-25. Jan 1979.

Method for isolating forest land values from prices paid for entire uneven-aged forests. A capitalization rate is derived for each sale, and after allocating timber growth to appropriate acres, the future harvest income per acre is capitalized to arrive at land value.

D2 KLEMPERER, W. DAVID. A simplified technique for capitalizing geometrically changing cash flows. Real Estate Appraiser and Analyst 45(2): 11-13. Mar/Apr 1979.

Simplified technique for finding the present value of a series of cash flows rising or declining in real terms at some fixed geometric rate.

D2 KLEMPERER, W. DAVID. A simulation approach to segregating land values from sales of forested properties. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 172-177. 1978.

Computer model uses an income capitalization approach to segregate land and timber values from the total price paid for a forest udner even-aged management. Method applies only to properties purchased for wood production, where forestry is the highest and best use.

D2 KURIMURA, T. On the relationship between private financial value and social-benefit value of forests. In Japanese; Eng. sum. Bull. Fac. Agric. Tottori Univ. 31, pp. 228-236. 1979.

A forest has both private and social value. It is impossible to establish simply a monetary sum of these values.

D3 THOM, ALAN R. The cost of insurance in distribution. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 21(4): 67-70. Apr 1979.

SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

Companies could save on insurance and damage costs of product distribution if they would structure their policies with some reasonable minimum deductible base. Analysis of insurance claims made on marine bulk cargo of newsprint and market pulp from British Columbia.

E DUNCAN, DONALD P. Potential problems facing university research in forestry and forest products. Forest Products Journal 29(4): 14-17. Apr 1979.

Strong national trend away from formula (institutional support) funding toward funding through competitive grants.

E GOTTSCHING, LOTHAR. A detailed look at R&D in western Europe. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 21(2): 54-56, 74. Feb 1979.

The big paper research institutes in western Europe get limited financial aid from the state. Pure research is not often conducted. Closer cooperation among the main research institutes is needed.

E MC GEE, CHARLES E. Forest research at work in Tennessee. Forest Farmer 38(6): 17, 45. Apr 1979.

Public and private interests cooperate in Tennessee's diverse research effort.

F COUFAL, JAMES E. How many technician schools and students? How much employment? Journal of Forestry 77(2): 99-101. Feb 1979.

Survey of 69 two-year forest technician schools in 26 states. Of 1977 graduates, 64.1 percent found jobs in forest technology by early 1978, and 18.7 percent had other employment.

F HOWES, LINDA A. Attitudes of southern industrial foresters towards information and education programs. M.F. Thesis. Stephen F. Austin State University. 144 pp. 1977.

Survey of 896 industrial foresters in 6 southern states.

F KENNEDY, J. J., and W. R. J. SUTTON. New Zealand forest managers, a subculture? New Zealand Journal of Forestry 23(2): 240-251. 1978.

New Zealand forest managers may be a subculture, as evidenced by language, dress, artifacts, aesthetic tastes, beliefs, and attitudes.

I SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

F PAGE, CHARLES R., JR. Private consultants' role in forest development. Forest Farmer 38(6): 26, 39. Apr 1979.

Consulting foresters can help bring about the recovery of Tennessee's hardwood resource by demonstrating how sound forest management pays.

F RINGLING, DENNIS F. Forgotten forest-related vocational occupation, sawmilling and woodhandling. Forest Products Journal 28(11): 14-15. Nov 1978.

There is a shortage of skilled workers in sawmilling and woodhandling. A Pennsylvania community college is initiating a program of instruction that will enable post-secondary students to acquire the skills needed to meet the demands of the sawmilling and woodhandling industry.

F SUTTON, W. R. J., and J. J. KENNEDY. Members' views of the New Zealand Institute of Foresters and its role. New Zealand Journal of Forestry 23(2): 252-262. 1978.

Members want the Institute to take a more active advocacy role in forestry and related environmental issues, and to do more in presenting the case for forestry to the general public.

H FOSTER, JANET. Working for wildlife, the beginnings of preservation in Canada. University of Toronto Press, Toronto. xii + 283 pp. 1978.

History of the Canadian government's conservation movement. Preservation of wildlife species was advocated as far back as the late 19th century.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

A1 HOSTLAND, JOHN E., and LARS LONNSTEDT. Forestry as rural employer. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 58-74. 1978.

Model of future employment in forest operations is applied to a county in Sweden.

A3 MEADORS, PAULA I. Rise in salaries of paper industry engineers barely tops inflation. Pulp and Paper 53(4): 98-99. Apr 1979.

Engineers in the paper industry were paid a median salary of $26,600 in 1978.

A4 RILEY, ROBERT G. Update on OSHA policies and their impact on the pulp, paper industry. Pulp and Paper 53(2): 134-136. Feb 1979.

Studies are being conducted to determine if chemicals and materials used in the pulp and paper industry are harmful to workers' health, and if wood or paper dust exposure adversely affects workers' health and longevity.

A4 SMITH, DOUGLAS M. Group self-insurance under the Maine Workers' Compensation Act. Northern Logger and Timber Processor 27(6): 8, 38-39. Dec 1978.

Interested employers joined to insure themselves. Claims have been kept to a minimum because of a rigorous on-the-job safety program.

A4 WOLF, CHARLES H., and GILBERT P. DEMPSEY. Logging work injuries in Appalachia. USDA Forest Service Northeastern Forest Experiment Station Res. Pap. NE-416, 13 pp. 1978.

Analysis of 1,172 injuries in central Appalachia shows that nearly half of all time lost, and almost all fatalities, resulted from accidents during felling and unloading. The largest proportion of serious injuries, fatalities, and costs were among young or new workers and during the late spring and early summer, when logging is at its peak.

B2b BOYCE, STEPHEN G., and NOEL D. COST. Forest diversity, new concepts and applications. USDA Forest Service Southeastern Forest Experiment Station Res. Pap. SE-194, 36 pp. Oct 1978.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

The National Forest Management Act of 1976 requires that plans provide for the diversity of plant and animal communities to meet multiple-use objectives and specifies that steps be taken to preserve the diversity of existing tree species. Monitoring of the natural succession of forest stands is useful for making management decision, assuring diversity, and for keeping multiple-use objectives in line with consumer attitudes for social and economic benefits.

B2b CONNAUGHTON, KENT P. Income and employment multipliers for gauging the economic impact of alternative levels of Forest Service timber harvest in northern California. Dissertation, Ph.D. University of California, Berkeley. 211 pp. 1978.

B2b FAZIO, JAMES R. Agency literature as an aid to wilderness management. Journal of Forestry 77(2): 97-98. Feb 1979.

How the federal Forest Service, National Park Service, and Fish and Wildlife Service answer potential wilderness visitors who request information by mail. Only a portion of the information sent is wilderness-related, and that portion is only moderately effective in aiding management.

B2b FIGHT, ROGER K., K. NORMAN JOHNSON, KENT P. CONNAUGHTON, and ROBERT W. SASSAMAN. Can intensive management make up the harvest lost when roadless areas are left undeveloped? Journal of Forestry 77(3): 148-151. Mar 1979.

Study of 7 western national forests showed that reallocation of funds from roadless area development to timber management intensification on accessible lands would not make up for the harvest lost if the roadless areas were left undeveloped. Concentrating timber production on accessible lands would also have financial, employment, and environmental consequences.

B2b LAURITZEN, M. K. The Cherokee National Forest. Forest Farmer 38(6): 18-19, 45-46. Apr 1979.

Future management will be influenced by commodity requirements and environment/social needs. Active public participation is needed to devise a management plan that will withstand future conflicts in the use and development of the Cherokee.

B2b LEONARD, FRANK S. The underlying structure for managerial behavior in the U.S. Forest Service. Dissertation, D.B.A. Harvard University. 336 pp. 1978.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

B2b LOESCH, MICHAEL A. The attitudes of residents in selected Minnesota communities toward Voyageurs National Park. Dissertation, Ph.D. University of Minnesota. 372 pp. 1978.

Establishment of the park is the outcome of a long running conflict between preservationists and developers that has spanned a period of 90 years. Efforts to establish a park came primarily from individuals and groups outside the region. In communities where opposition was most strong, the economy is based upon industries such as forestry and mining.

B2b MORSHIDI, ABANG H. K. The development of national parks in Sarawak. Malaysian Forester 40(3): 138-143. Jul 1977.

People need to become more aware of the social and economic importance of national parks.

B2b SCHEIFELE, M. Problems and considerations of a state forest administration at the beginning of the forest fiscal year 1979. In German; Eng. sum. Forstwissenschaftliches Centralblatt 98(1): 1-8. Feb 1979.

Cost increases must be controlled. Personnel problems such as the number of positions and possibilities for promotion need to be worked out. Operations were profitable in 1978.

B2b UNITED STATES GENERAL ACCOUNTING OFFICE. The national forests, better planning needed to improve resource management. Report by the Comptroller General of the United States. CED-78-133. 35 pp. 1978.

B2b VARJO, UUNO. Forestry on state-owned lands. In English. Nordia 2. 1978.

B2c BIRD, I. D. Algonquin Forestry Authority conceived from compromise of logger and recreationist. Pulp and Paper Canada 80(1): 41-44. Jan 1979.

Park in Ontario has been managed by the Algonquin Forestry Authority for the last 4 years. Master plan for the park emphasizes multiple use for recreation, research and education, resource products, and the environment.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

B2c FORBES, DONOVAN C., and ROBERT E. DREXLER. Management for recreation and environmental education benefits at TVA's Land Between the Lakes. Paper presented at the annual conference of the International Society of Arboriculture, Toronto, Aug 1978. Journal of Arboriculture 5(4): 82-84. Apr 1979.

The Land Between the Lakes is managed for multiple use. Open space is intermingled with the predominant forest setting to provide an aesthetically pleasing background for environmental education and outdoor recreation.

B2c RIPLEY, THOMAS H. Diversity, key to TVA forestry. Forest Farmer 38(6): 20-21, 54. Apr 1979.

TVA's role in Tennessee forestry.

B2c STATE OF WASHINGTON. Bibliography of DNR publications. State of Washington, Department of Natural Resources. 57 pp. Nov 1978.

Includes material on forestry.

B3a BIRCH, THOMAS W., and DOUGLAS S. POWELL. The forest-land owners of Kentucky. USDA Forest Service Northeastern Forest Experiment Station Res. Bull. NE-57, 101 pp. 1978.

Individuals own most of the private forest land in Kentucky. Most owners show little interest in forestry and have only a scant knowledge of sound forestry practices.

B3a BIRCH, THOMAS W., and NEAL P. KINGSLEY. The forest-land owners of West Virginia. USDA Forest Service Northeastern Forest Experiment Station Res. Bull. NE-58, 76 pp. 1978.

There are approximately 207,500 owners of private commercial forest land in West Virginia. Corporations own most of the commercial forest land.

B3a MURPHY, HARRY E. Brazil achieves forest development breakthrough with tax incentives. Forest Farmer 38(3): 6-7. Jan 1979.

Private owners are allowed to deduct 50 percent of their costs from gross income. Since incentive program began in 1967, over 9 million acres have been planted and 400,000 jobs created.

B3a SANGSTER, R. G. Scottish Woodland Owners Association, the timber producers' representative in Scotland. Arboricultural Journal 3(5): 314-315. Oct 1978.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

Basic philosophy of the SWOA is the conservation of Scotland's timber resource through proper use. It encourages timber production with due regard to other land uses, including amenity, farming, and wildlife conservation.

B3c BARRON, EDWIN. The vendor situation in Texas, how it works for timber growers. Forest Farmer 38(2): 16, 31-34. Nov/Dec 1978.

The federal Forestry Incentives Program provides landowners with financial assistance for reforestation and timber stand improvement. Texas' experience from the viewpoint of the Texas Forest Service, vendors, and landowners.

B3c BEHLEN, DOROTHY. Help! For the small-woodland owner. American Forests 85(1): 36-39. Jan 1979.

Programs, agencies, organizations, and individuals who can assist the small-woodland owner. Includes directory of state foresters in the U.S.

B3c BROOKS, GEORGE N. Forestry Incentives Program to receive $15 million for the coming year. Forest Farmer 38(2): 18-19. Nov/Dec 1978.

The South will receive 68 percent of those funds.

B3c HART, C. E. Private woodlands, a guide to British timber prices and forestry costings 1979. Chenies, Coleford, Forest of Dean, Gloucestershire, England. xv + 118 pp. 1979.

Costs: land, labor, overhead, establishing, tending, harvesting, machines, and roads. Prices: round timber, other woodland products, minor forest products, fencing materials, sawn British timber. Woodland values: 1973-74, 1975-76, 1977-78, late 1978.

B3c JARVELAINEN, VELI-PEKKA. Monitoring the development of Finnish private forestry, a test of an information system based on a sample of forest holdings. In Finnish; Eng. sum. Folia Forestalia, 354, 55 pp. 1978.

Information was collected to describe certain background conditions in private forestry, forestry planning on holdings, forestry instruction among owners, the forest owners' opinions concerning the supervision of the private forestry law, and the legal security of the forest owner.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

B3c KELLEY, GEORGE W. Make every stem count. American Forests 85(4): 22-25, 50-54. Apr 1979.

Production from private nonindustrial woodlands should be increased. Owners need to become better acquainted with good forestry practices to increase timber production.

B3c KINGSLEY, NEAL P. Attitudes of landowners toward timber harvesting in the Northeast. Northern Logger and Timber Processor 27(10): 22-23, 44. Apr 1979.

Private nonindustrial owners are not oriented toward timber production.

B3c MARLIN, CLIFTON B. A study of owners of small timber tracts in Louisiana. Louisiana Agricultural Experiment Station, Baton Rouge. Bulletin 710. 65 pp. 1978.

Survey of small-woodland owners during the period July 1971 through July 1974. Personal characteristics of owners, their forest management practices, information on their land and timber.

B3c OLSON, DAVID D. Realities of nonindustrial private forest ownership in northern Michigan, an extension forester's opinion. Journal of Forestry 77(1): 17-18. Jan 1979.

Nonindustrial private owners control 47 percent of northern Michigan's commerical forests. Absentee owners are increasing in number. Owners have other objectives than timber growing.

B3c SOCIETY OF AMERICAN FORESTERS. Improving outputs from nonindustrial private forests. Study Report of a Task Force, Society of American Foresters, Washington, D.C. 11 pp. Mar 1979.

Substantial improvement in programs to assist owners of nonindustrial private forests would increase the contributions from these lands and would beneift both the owners and society.

B3c STEPHENS, JOHN J. Realism and capital formation. Forest Farmer 38(2): 7-8, 20, 22. Nov/Dec 1978.

Counterproductive taxation inhibits timber production on small- and medium-size private forest land. More favorable tax treatment and other practical incentives would encourage greater investment in forestry.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

C2 ANDERSEN, HAROLD E. (ED). Proceedings of Alaska lands symposium. Yale School of Forestry and Environmental Studies. 66 pp. 1979.

Symposium, held at the Yale School of Forestry and Environmental Studies, Apr 20, 21, 1976, dealt with the following topics: history of Alaska and its resource use, impact of the Alaska pipeline on the present political and economic situation, history of the Alaska Native Claims Settlement Act, National Interest Lands (areas of outstanding value for wildlife, scenery, rivers, and forests reserved for management by federal agencies.).

C2 BRUN, A. Competition between farming and forestry in mountainous areas, a local responsibility. In French; Eng. sum. Economie Rurale 127, pp. 54-57. 1978.

In France woodland is increasing at the expense of arable and pasture land.

C3 CARROLL, MICHAEL. Rural land use control in Great Britain. Natural Resources Journal 19(1): 145-159. Jan 1979.

The authority of the Forestry Commission to purchase and manage land for the purposes of forestry is in itself a powerful mechanism for the control of forest land use. The Forestry Commission has the powers of licensing to fell trees and decides what conditions to impose when making grants. Finance and income tax acts, forestry acts, town and country planning acts, and national parks and countryside acts all affect forest land use.

C3 COLEMAN, ALICE. Derelict land, a neglected resource in forestry. Aboricultural Journal 3(5): 341-350. Oct 1978.

New forests should be located in areas where they will not displace other productive land uses. The Second Land Utilization Survey, which mapped the whole of England and Wales in the 1960s, revealed 7 types of disused land that could be afforested.

C3 GUPTA, TIRATH, and SHREEKANT SAMBRANI. Farming systems in hill areas. Control of shifting cultivation, the need for an integrative approach and systematic appraisal. Indian Journal of Agricultural Economics 33(4): 8 pp. Oct/Dec 1978.

Effective use of the land is critical in highly populated agrarian countries such as India. Depending upon agroclimatic conditions, a mix of activities such as terracing, orchard plantations, forestry, and forest-based industries can be tried.

II APPLIED TO FORESTRY'S PRODUCTIVE AGENTS

C3 KUO, P. C. Agro-forestry, its concept and implications of a sound land-use goal. Canopy 3(11): 6-7, 10. 1977.

Multiple cropping system in which agriculture and forestry are combined.

C3 RURAL RESEARCH. Agro-forestry, a new kind of farming? Rural Research 99, pp. 4-9. 1978.

Many forest managers in Australia are combining timber production with agricultural production.

C3 SRIVASTAVA, B. P., and M. M. PANT. Social forestry on a cost-benefit analysis framework. In English; Hin., Ger., and Fre. sum. Indian Forester 105(1): 2-35. Jan 1979.

Social forestry combines the idle land, labor, and water resources to optimize production of farm manure, firewood, fodder, food, and small construction timber, and to stabilize soil. It advocates the integration of agriculture, forestry, and animal husbandry to bring about self-sufficiency, economic growth, and community development.

D1 FOSTER, BENNETT B. Multiple discount rates for evaluating public forestry investments. In English; Fre. sum. Forestry Chronicle 55(1): 17-20. Feb 1979.

Public forestry investment evaluation must recognize the entire continuum between long- and short-term social and economic welfare. Risk of investment and cost of handling funds are factors that influence the selection of a discount rate. Investment duration should also be considered.

D1 KURIMURA, T. A fundamental study on managerial accounting of forestry investment. On the theory of forest interest rates. In English. J. Fac. Agric., Tottori Univ. 14, pp. 27-32. 1979.

Structure of the forest interest rate. Long-term forest rates (discount rates) exceed short-term forest interest rates because of the liquidity consideration. Although discount rates are often confused with yields, they should be distinguished from yields.

D2 HOECK, JOHN L. Credit tips for the woodworking executive. Wood and Wood Products 84(3): 34. Mar 1979.

Guidelines for extending credit.

III APPLIED TO FOREST PRODUCTION

A1 DOUGLAS, J. SHOLTO, and ROBERT A. DE J. HART. Forest farming. Rodale Press, Inc., Emmaus, Pennsylvania. 199 pp. 1978.

System midway between forestry and agriculture in which trees are used to provide a variety of resources. "Three dimensional farming" includes the trees themselves, the harvest from the trees (nuts, beans, fruit), and animals nourished by the trees' produce, plus animal products.

A1 MINCKLER, LEON S. Creative forestry. American Forests 85(2): 24-27, 59 62. Feb 1979.

There are 5 general categories of forest management based on objectives and on the location and nature of the resource. These are: 1) high-wood-yield forestry, 2) integrated forestry, 3) zero-investment forestry (except for land), 4) nontimber wilderness forestry, and 5) nontimber urban forestry. In each it is possible to maintain the integrity of the ecosystem for humanistic values if the ecological laws and limitations are recognized and followed.

A1 SAASTAMOINEN, OLLI. Cutting areas as reindeer pasturage. In English; Fin. sum. Communicationes Instituti Forestalis Fenniae 95.4, 28 pp. 1978.

Wood production and reindeer husbandry are multiple uses of forestry land in Northern Finland. The reindeer's food supply is increased by cutting the tree lichen bearing forests in winter.

A2 BROWN, JAMES H. Planning for efficient Christmas tree plantation management. American Christmas Tree Journal 23(2): 19-22. May 1979.

A2 CORNER, SANDY. Christmas trees, a bibliography. American Christmas Tree Journal 23(1): 17-18, 47. Feb 1979.

1979 supplement published by the National Christmas Tree Association.

A2 WEBB, J. B. Christmas tree production, past and present. Northern Logger and Timber Processor 27(6): 6-7. Dec 1978.

First Christmas tree plantations in the U.S. were begun in the 1930s.

A3 KYTTALA, TIMO. Aspects of work organizing in logging. In Finnish; Eng. sum. Folia Forestalia 361. 1978.

III APPLIED TO FOREST PRODUCTION

A3 VALLENTINE, J. F. (ED). U.S.-Canadian range management, 1935-1977: a selected bibliography on ranges, pastures, wildlife, livestock and ranching. Oryx Press, Phoenix, Arizona. 337 pp. 1978.

A5a(1) HOAR, ALEXANDER R. Relations between motivation and psychological distance in forest recreation environment. M.S. Thesis. Virginia Polytechnic Institute and State University. 64 pp. 1977.

How people may behave when they perceive that their surroundings in a public recreation area have been altered.

A5a(2) SHAFER, ELWOOD L., JR., and ROBERT C. LUCAS. Research needs and priorities for dispersed recreation management. Journal of Leisure Research 10(4): 311-320. 1978.

A5a(3) DWYER, JOHN F., and MICHAEL D. BOWES. Benefit-cost analysis for appraisal of recreation alternatives. Journal of Forestry 77(3): 145-147. Mar 1979.

Willingness of users to pay is the appropriate way to measure benefits and can be estimated from either the participation behavior of recreation users or by surveying a sample of participants to learn their preferences.

A5a(3) DYER, A. A., and J. G. HOF. Comment on "Benefit-Cost Analysis for Appraisal of Recreation Alternatives." Journal of Forestry 77(3): 147-148. Mar 1979.

Problems in applying the concepts of benefit-cost analysis to recreation valuation. Use of value indexes for forest outputs is necessary to allocate resources in a truly efficient manner. Determining these indexes is neither simple nor analytically straightforward.

A5a(3) KENNEDY, J. J., and A. W. BIGNELL. Forest recreation and changing management attitudes in New Zealand. New Zealand Journal of Forestry 23(2): 202-216. 1978.

How forest recreation fits into national and regional leisure patterns; factors affecting decisions on if, how, and where to recreate; forest managers' attitudes toward recreation, amenity, and multiple-use forestry.

A5a(3) MILES, C. W. N., and W. SEABROOKE. Recreational land management. E. & F. N. Spon Ltd., London. IX + 147 pp. 1977.

III APPLIED TO FOREST PRODUCTION

Development of recreation in the countryside, particularly in England and in Wales. Work of statutory authorities and theories relating to demand, site evaluation, and management planning with financial and visitor monitoring.

A5a(3) SCHREUDER, GERARD F. The use of simulation models by decision makers in the area of wildland recreation planning and management. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 38-44. 1978.

A5a(4) RAVENSCRAFT, DAVID J., and JOHN F. DWYER. Estimating the influence of congestion on the willingness of users to pay for recreation areas. Agricultural Experiment Station, University of Illinois at Urbana-Champaign, Department of Forestry, Forestry Research Report No. 78-5, 6 pp. Jul 1978.

A5a(4) RAVENSCRAFT, DAVID J., and JOHN F. DWYER. Reflecting site attractiveness in travel cost-based models for recreation benefit estimation. Agricultural Experiment Station, University of Illinois at Urbana-Champaign, Department of Forestry, Forestry Research Report No. 78-6, 7 pp. Jul 1978.

Site attractiveness is employed to estimate people's willingness to pay for use of a site.

A5a(4) ROGGENBUCK, JOSEPH W. 1977 Virginia outdoor recreation demand. Virginia Polytechnic Institute and State University, School of Forestry and Wildlife Resources FWS-3-78, 63 pp. 1978.

A5a(4) ROGGENBUCK, JOSEPH W. 1977 Virginia outdoor recreation needs assessment. Virginia Polytechnic Institute and State University, School of Forestry and Wildlife Resources FWS-4-78, 55 pp. 1978.

A5a(4) WOHLWILL, JOACHIM F., and HARRY HEFT. A comparative study of user attitudes towards development and facilities in two contrasting natural recreation areas. Journal of Leisure Research 9(4): 264-280. 1977.

Campers at state parks in two areas were surveyed along with lessees of state forest sites.

A5c HELBIG, TERRY. Wheelchairs in the woods. Journal of Forestry 76(12): 776. Dec 1978.

Forest recreation areas accessible to persons in wheelchairs can be developed at a reasonable cost.

III APPLIED TO FOREST PRODUCTION

A5c KUEHNER, RICHARD A., and GARY H. ELSNER. Response of visitors to the Rainbow Trail, an evaluation of an interpretive area in the Lake Tahoe, Basin, California. USDA Forest Service Pacific Southwest Forest and Range Experiment Station Res. Pap. PSW-131, 17 pp. 1978.

A5c MC KAY, ROGER E. Hiker preferences for trail features and maps. USDA Forest Service Northeastern Forest Experiment Station Res. Note NE-262, 4 pp. 1978.

Hikers at a Pennsylvania state park were asked what items were essential to their trail experience.

A5c PLUMLEY, H. J., H. T. PEET, and R. E. LEONARD. Records of backcountry use can assist trail managers. USDA Forest Service Northeastern Forest Experiment Station Res. Pap. NE-414, 19 pp. 1978.

Data form Long Trail in Vermont have been used to indicate the types of information that can be obtained from visitor use records.

A5e CHRISTENSEN, HARRIET H. Bystander reaction to illegal behavior in a forested recreation area. Dissertation, Ph.D. University of Washington. 181 pp. 1978.

Recreation users may be able to help the authorities control vandalism, theft, and other rule violations in recreation areas. Campground users were encouraged to become involved in crime control by reporting witnessed violations in the campground.

A5e LEUSCHNER, WILLIAM A., and RODNEY L. YOUNG. Estimating the southern pine beetle's impact on reservoir campsites. Forest Science 24(4): 527-537. Dec 1978.

Methodology estimating recreation benefits for a southern pine beetle control program was developed and then applied to two East Texas reservoirs.

A5f JUNGST, STEVEN E. Projecting future use of the national forest wilderness system. Dissertation, Ph.D. Iowa State University. 173 pp. 1978.

Two regression models project future use of the national forest wilderness system.

A5f SETRAN, MARIE T. A study of social carrying capacities for San Jacinto Wilderness. M.S. Thesis. California State University, Long Beach. 1978.

III APPLIED TO FOREST PRODUCTION

Examination of social carrying capacity of the San Jacinto Wilderness shows that too many people are visiting this area in one day. By limiting the number of visitors to the area, an adequate wilderness experience may be ensured for all visitors.

A5f WETZSTEIN MICHAEL E. An econometric analysis of California wilderness use with emphasis on measuring the effects of introducing new areas. Dissertation, Ph.D. University of California, Davis. 182 pp. 1978.

Model explains use at existing destinations and estimates the effects of introducing various combinations of new wilderness areas on use throughout the system.

A5f YOUNG, ROBERT A. An analysis of wilderness concepts and values. Dissertation, Ph.D. University of Illinois at Urbana-Champaign. 208 pp. 1978.

Survey of Illinois residents to determine how they feel about wilderness. Most users and potential users of wilderness indicated that they would be satisfied with "semi-wilderness." Interests of the American public should be included in the national wilderness decision-making process.

A5g ANDERSON, EDDIE. Visual resource assessment, local perceptions of familiar natural environments. Dissertation, Ph.D. University of Michigan. 213 pp. 1978.

Method for assessing visual forest resources.

A5g BRUSH, ROBERT. Perception of stand attractiveness by forest landowners of Massachusetts. Dissertation, Ph.D. University of Massachusetts. 103 pp. 1978.

A5g NICKERSON, DEVON B. SIGHTLINE, PERSPECTIVE PLOT, SCOPE, three desktop computer programs for forest landscape design. Journal of Forestry 77(1): 14-17. Jan 1979.

Computer programs assist the forest manager in predicting the visual consequences of timber harvest.

A5h PONCET, A. The opening of ski runs by making clearings in mountain forests. In French. Revue Forestiere Francaise No. 5, pp. 392-398. 1978.

A6 BOSWORTH, D. A. Better management for farm woodlands. Soil Conservation 42(7): 6-10. 1977.

III APPLIED TO FOREST PRODUCTION

Conservation measures being taken to reduce soil erosion, maintain water quality, and increase timber and grazing production on farm woodlands in Washington, Oregon, Idaho, and northern California.

A7 BASILE, JOSEPH V., and TERRY N. LONNER. Vehicle restrictions influence elk and hunter distribution in Montana. Journal of Forestry 77(3): 155-159. Mar 1979.

Restricting vehicle use on portions of 2 areas in Montana led to contrasting results in overall hunting pressure, in seasonal distribution of hunters and elk, and in elk harvest.

A7 CARLEY, SHIRLEY. Landowner cooperative promotes pelt sales for beaver control Forest Farmer 38(5): 8-9, 15. Mar 1979.

An excessive beaver population is damaging farms and forests in the South. A group of Mississippi forest landowners and farmers have formed a cooperative that cleans, dries, and sells beaver pelts.

A7 COCHEBA, DONALD J., and WILLIAM A. LANGFORD. Wildlife valuation, the collective good aspect of hunting. Land Economics 54(4): 490-504. Nov 1978.

Valuation of wildlife, particularly the quantification of hunting benefits.

A7 GILES, ROBERT H., JR. Wildlife management. W. H. Freeman and Company, San Francisco. 416 pp. 1978.

Including forest game management.

A7 HAUTALUOMA, JACOB, and PERRY J. BROWN. Attributes of the deer hunting experience, a cluster-analytic study. Journal of Leisure Research 10(4): 271-287. 1978.

A7 MILLER, JON R., and FREDERIC C. MENZ. Some economic considerations for wildlife preservation. Southern Economic Journal 45(3): 718-729. Jan 1979.

Model incorporates preferences for wildlife along with cost considerations to derive an optimum stock of a species. Pure existence is one of the values associated with wildlife, along with such uses as hunting, fishing, and the enjoyment of scientific and educational values.

III APPLIED TO FOREST PRODUCTION

A7 WITTER, DANIEL J. Bird-watchers', hunters', and wildlife professionals' beliefs about the importance and management of wildlife. Dissertation, Ph.D. University of Arizona. 204 pp. 1978.

All 3 groups favor wildlife conservation. Bird-watchers financially support private conservation organizations, while hunters and wildlife professionals support public conservation efforts.

A8 ANDRESEN, JOHN W. Internationalization of urban forestry. Journal of Arboriculture 4(11): 250-257. Nov 1978.

Role of International Society of Arboriculture in fostering international tree relations; current international urban forestry programs; suggestions for guiding international urban forestry into a decade of global tree planting and conservation.

A8 ANDRESEN, JOHN W. Urban forestry and its influence in human settlements. Part 1. Urban forest perspectives. Paper presented at the 8th World Forestry Conference, Jakarta, Indonesia, Oct 1978. Arboricultural Journal 3(5): 296-307. Oct 1978.

Urban forests and urban forestry during the last 20 years. Environmental importance of urban trees has been emphasized during this period.

A8 ANDRESEN, J. W., and J. SWAIGEN. Urban tree and forest legislation in Ontario. Environment Canada, Forestry Service, Sault Ste. Marie, Ont. Rep. O-X-282. 97 pp. 1978.

A8 BURNS, DENVER P., and GEORGE H. MOELLER. Urban forestry at the crossroads. Journal of Forestry 77(1): 24-26. Jan 1979.

Foresters need to play a more active role in urban forestry. Their leadership and expertise could help in developing a renewable resource ethic whose effects reach far beyond the city limits.

A8 CHAN, FRANKLIN J., and GWEN CARTWRIGHT. Tree management aided by computer. Journal of Arboriculture 5(1): 16-20. Jan 1979.

Using a computer for street tree management.

III APPLIED TO FOREST PRODUCTION

A8 HARRELL, JAMES B. Florida's urban forestry program. Journal of Arboriculture 4(9): 202-207. Sep 1978.

Since 1971, the Florida Division of Forestry has been a leader in the development of urban forestry in the South.

A8 KIELBASO, JAMES. Evaluation of trees in urban areas. Paper presented at the annual convention of the International Society of Arboriculture, Toronto, Ontario, Aug 1978. Journal of Arboriculture 5(3): 70-72. Mar 1979.

A8 MOLL, GARY A. Urban forest planning. Journal of Arboriculture 4(9): 213-215. Sep 1978.

In southern Maryland.

A8 RUBENS, JAMES M. Current urban forestry policy of U.S. governments. Journal of Arboriculture 4(10): 234-239. Oct 1978.

U.S. urban forests are financed and managed primarily by local, state, and federal governments. Urban forest managers are more able than traditional woodland foresters to assess urban forestry needs.

A8 STOREY, W. E. Woodland management and nature conservation in London. Reprinted from the Greater London Intelligence Journal No. 39, Feb 1978. Arboricultural Journal 3(5): 316-323. Oct 1978.

History of London's woodland. Describes main characteristics of each wooded open space. Wildlife in London's woodland. Importance of maintaining continuity and balance in woodland policy.

A8 TF NEWS. Urban forestry. TF News 57, pp. 2-3. Fall 1978.

Urban forestry program of the Texas Forest Service.

B1 FELL, JEFFREY D., and RICHARD E. WEYRICK. Hardwood management in N.E.—Intensity? Direction? Problems? Forest Industries 106(3): 90-91. Mar 1979.

Hardwood management in Maine, New York, New Hampshire, Vermont, Massachusetts, and Connecticut is improving. There is more interest in hardwood utilization.

III APPLIED TO FOREST PRODUCTION

B1 UNITED STATES GENERAL ACCOUNTING OFFICE. Projected timber scarcities in the Pacific Northwest, a critique of 11 studies. Report to the Congress by the Comptroller General of the United States. EMD-79-5. 47 pp. Dec 1978.

A projected decline in timber supplies from the Pacific Northwest could result in an increase in the cost of wood, a decrease in the use of wood, and a serious impact on the local economy.

B1 WEEKES, WILLIAM D. The awesome live oak. American Forests 85(2): 20-23, 56-59. Feb 1979.

Live oak was used in shipbuilding. After the Civil War and the advent of the iron ship, the live oak became an ornamental.

B2 BENGTSON, GEORGE W. Forest fertilization in the United States, progress and outlook. Journal of Forestry 77(4): 222-229. Apr 1979.

Greatest operational use of fertilizers in U.S. forests will continue to be in the Pacific Northwest and in the Southeast.

B3 CARLISLE, A., and A. H. TEICH. Analyzing benefits and costs of tree-breeding programs. Unasylva 30(119/120): 34-37. 1978.

Role economic techniques can play in tree improvement programs: program justification, program optimization, selection of management alternatives, and major cost source identification. Most promising trend is the increasing use of linear programming models to optimize tree improvement research and development.

B3 GUPTA, TIRATH R. Some natural resource management aspects of commercial cultivation of hybrid eucalyptus in Gujarat, India. Indian Institute of Management, Ahmedabad. Working Paper No. 230, 35 pp. Aug 1978.

B3 MALAC, BARRY F., and ROBERT D. HEEREN. Hardwood plantation management. Southern Journal of Applied Forestry 3(1): 3-6. Feb 1979.

In some cases, intensive plantation culture produces 50 percent more volume at one-third the cost of growing hardwoods under a system of natural regeneration.

III APPLIED TO FOREST PRODUCTION

B3 VAN BUIJJTENEN, J. P. Tree improvement, its impact on timber production. Forest Farmer 38(2): 14-15, 22, 24, 25. Nov/Dec 1978.

Within the next 10 years there should be a shift toward nearly exclusive use of genetically improved material for planting.

B4 BRODIE, J. DOUGLAS, DARIUS M. ADAMS, and CHIANG KAO. Analysis of economic impacts on thinning and rotation for Douglas-fir, using dynamic programming. Forest Science 24(4): 513-522. Dec 1978.

Impacts of regeneration cost, initial stocking level, site, quality premiums, and variable logging costs on thinning and rotation are dervied with a forward-recursion dynamic programming algorithm.

B5 BOARDMAN, R. Productivity under successive rotations of radiata pine. Technical note. Australian Forestry 41(3): 177-179. Sep 1978.

Third successive radiata pine rotation in Wirrabara Forest, South Australia. There has been no long-term decline in productivity on this site.

B5 HAKKILA, PENTTI, MATTI LEIKOLA, and MARTTI SALAKARI. Production, harvesting and utilization of small-sized trees. Final report of the research project on the production and utilization of short-rotation wood. In English. The Finnish National Fund for Research and Development. Series B, No. 46 b. 1979.

B5 JOHNSTON, D. R. Irregularity in British forestry. Forestry 51(2): 163-169. 1978.

Irregularity in the forest implies mixed species, all-aged crops, or crops having a wide range of size classes. Foresters do not like to create large areas of uniform forests, while socio-economic trends favor more regularity. These conflicting considerations can be reconciled by creating variable forests composed of regular stands.

B5 MARQUIS, DAVID A. Shelterwood cutting in Allegheny hardwoods. Journal of Forestry 77(3): 140-144. Mar 1979.

In a study of 4 levels of cutting of a fully stocked 55-year-old stand, removal of one-third of the basal area provided best conditions for the establishment of new seedlings of preferred species, particularly black cherry.

III APPLIED TO FOREST PRODUCTION

C ALLGEMEINE FORSTZEITUNG. Forest road- and bridge-building. In German. Allgemeine Forstzeitung 88(8): 195-213. 1977.

Includes: Forest road planning in practice (O. Sedlak).

D1 BROWN, THOMAS C., and RON S. BOSTER. On the economics of timber damage appraisal for public forests. Journal of Forestry 76(12): 777-780. Dec 1978.

Value of timber in the context of decision making about fire suppression. Calculating potential economic loss from fire suppression decisions.

D1 GEMMER, THOMAS V. Forest fires in a computer. Journal of Forestry 76(12): 773-775. Dec 1978.

System of programs for a digital computer provides simulated experience in fire suppression tactics and decision making.

D1 LAPINSKI, MICHAEL. The year the West burned. American Forests 85(4): 26-29, 42-45. Apr 1979.

Portions of Washington, Oregon, Idaho, and Montana were destroyed in the August 1910 fire that has no equal in American history in terms of death and destruction.

D1 WOOD, DONALD B. Economic evaluation of fuel management programs for forest land. Dissertation, Ph.D. Utah State University. 134 pp. 1978.

Economic feasibility of treating fuels in forested areas to reduce the costs and damages of wildfire.

D3 HERRICK, OWEN W., DAVID A GANSNER, and PAUL S. DE BALD. Predicting stand losses from the gypsy moth, an application of automatic interaction detection. Journal of Forestry 77(2): 91-94. Feb 1979.

Guides for predicting the amount of tree mortality and timber loss that could result from infestation.

D3 ROBERTSON, JOSEPHINE. The mountain pine beetle, friend or foe? American Forests 85(2): 38-41, 43-44. Feb 1979.

Five ways to deal with this insect which kills lodgepole, ponderosa, and other pines.

III APPLIED TO FOREST PRODUCTION

D3 THOMPSON, W. A., C. S. HOLLING, D. KIRA, C. C. HUANG, and I. VERTINSKY. Evaulation of alternative forest system management policies, the case of the spruce budworm in New Brunswick. Journal of Environmental Economics and Management 6(1): 51-68. Mar 1979.

D4 BLOOMFIELD, HOWARD. Elms for always. American Forests 85(1): 24-26, 48, 49. Jan 1979.

Dutch elm disease in the U.S.

D4 GEORGE, WAYNE. Protect Our Elm Trees Society. American Forests 85(1): 27-29, 51-52. Jan 1979.

How an Illinois town is dealing with the problem of Dutch elm disease.

D4 HEINRICHS, JAY. "T" on trial. Part 1. American Forests 85(2): 16-19, 53-56. Feb 1979.

The herbicide 2,4,5-T is used to clear weed species from around shade-intolerant softwood stands. A byproduct of the synthesis of industrial 2,4,5-T is a powerful poison dioxin TCDD. Both 2,4,5-T and TCDD have had adverse effects on laboratory animals, but their effects on man are not totally certain. EPA must decide whether to ban the herbicide or limit its use.

D4 HEINRICHS, JAY. "T" on trial. Part 2. American Forests 85(3): 16-19, 49-56. Mar 1979.

E BRADLEY, DENNIS P., and SHARON A.WINSAUER. Estimating forest economic potentials by combining harvest simulation and forest inventory. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 137-145. 1978.

Harvest simulation is combined with improved forest inventory methods to assess the strategic economic potential of forest residues for pulp and energy.

E FIELD, RICHARD C. Linear and goal programming as complementary planning models for national forest timber management. Dissertation, Ph.D. University of Georgia. 126 pp. 1978.

Evaluates linear and goal programming as alternative timber management planning models for a southern national forest, and proposes an approach based on the joint use of the 2 models.

III APPLIED TO FOREST PRODUCTION

E FOWLER, KENNETH S. Toward a more integrated regional timber model. Forest Science 24(4): 434-443. Dec 1978.

Socioeconomic effects of timber management decisions are difficult to quantify. Model has been developed which links together a cut allocation linear programming problem, an economic input/output model, employment regressions, a forest measurement simulator, and a simplified tax-base projection procedure. Model produces quantitative estimates of significant policy variables as a function of timber cutting levels for a region.

E GADOW, K. VON. Setting goals in forest management. South African Forestry Journal No. 106, pp. 2-9. Sep 1978.

Classification of forestry goals to serve as a guide in planning.

E GUPTA, TIRATH R. Some methodological and practical aspects of accounting the returns from clearfelling natural forests in the evaluation of intensive forest development projects. Indian Institute of Management, Ahmedabad. Working Paper No. 229, 15 pp. Jul 1978.

The Forest Development Corporations in India formulate and implement intensive forest development projects for their respective areas.

E HANNELIUS, SIMO. Initial tree spacing in Norway spruce timber growing, an appraisal of yield and profitability. In Finnish; Eng. sum. Folia Forestalia 359, 51 pp. 1978.

Timber production and profitability.

E HAROU, PATRICE A. A decision framework for implementation and control of forestry projects. Dissertation, Ph.D. University of Minnesota. 182 pp. 1978.

Management of forestry projects after their appraisal: understanding the nature of uncertainty in forestry projects, reducing the impact of unforseen events, understanding the means for improving appraisal and contingency planning.

E HØSTELAND, JOHN E., and LARS LONNSTEDT. System dynamics, a tool for forest policy analysis. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 47-57. 1978.

III APPLIED TO FOREST PRODUCTION

Description of system dynamics method and its application to forestry problems.

E KURIMURA, T. Studies of forestry accounting that recognizes price-level changes; methods of calculating earnings and outlays. In Japanese; Eng. sum. Bull. Fac. Agric. Tottori Univ. 31, pp. 214-227. 1979.

Methods applicable to the normal sustained-yield forest.

E MARSINKO, ALLAN P. C. Operations simulator. Dissertation, Ph.D. State University of New York College of Environmental Science and Forestry. 225 pp. 1978.

Interactive computerized model allows for the creation of timber management plans at a computer terminal.

E NAVON, DAINEL (COMP). Operational forest management planning methods: proceedings, meeting of steering systems project group, International Union of Forestry Research Organizations, Bucharest, Romania, Jun 18-24, 1978. USDA Forest Service Pacific Southwest Forest and Range Experiment Station Gen. Tech. Rep. PSW-32, 117 pp. 1978.

14 papers submitted to a conference of Project Group P4.07 Division IV, International Union of Forestry Research Organizations. Topics include: uses of simulations, analytical techniques, and mathematical programming techniques in land management planning; reforestation programs, intensive forestry, timber management and production, tree growth, wood transportation, and budgeting.

E NOORDIN, SULAIMAN BIN HAJI. A method of forest revenue assessment based on inventory data. Malaysian Forester 40(3): 144-159. Jul 1977.

Method adopted in Selangor State, Malaysia, takes into account current logging costs and market log prices.

E PORTERFIELD, RICHARD, KEITH UTZ, and WILLIAM BALMER. Analyzing alternative hardwood management strategies. Southern Journal of Applied Forestry 3(1): 7-12. Feb 1979.

Investment costs associated with hardwood production under 3 management regimes: plantation establishment, harvest cut followed by natural regeneration, and rehabilitation through timber stand improvement. Most southern hardwood stands will continue to be naturally regenerated given current landowner objectives, ownership patterns, and stumpage prices.

III APPLIED TO FOREST PRODUCTION

E THOR, EDWARD C. An economic framework for wildland planning decision-making. Dissertation, Ph.D. University of California, Berkeley. 208 pp. 1978.

Federal land management agencies need a clear, rational, defensible decision-making framework for making trade-offs among the conflicting demands on public wildlands. Mathematical formulation of the public wildland planning problem using goal programming.

E UUSITALO, MATTI. Regional gross stumpage earnings in Finland in 1970-75. In Finnish; Eng. sum. Folia Forestalia 357, 26 pp. 1978.

Estimates of gross stumpage earnings by forestry board districts and forest owner groups, and reasons for variations.

E VODAK, MARK C. An evaluation of the Michigan State Forest Cultivation Program. Dissertation, Ph.D. Michigan State University. 131 pp. 1978.

The Forest Cultivation Program was initiated in 1973 primarily to increase the revenue-producing potential of state forest lands through more intensive silviculture and management. Analysis of the decision process involved in the investment of allocated funds.

E WALKER, JOHN L. Land use planning applications of the economic harvest optimization (ECHO) model. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 96-104. 1978.

To make economically sound land-use planning decisions, public agencies must first adopt a correct economic model for preparing forest management plans for each alternative set of restrictions that can be placed on timber management. Each restriction must be analyzed separately. The decision maker must show that the nontimber values derived from each incremental restriction on timber management are equal to or greater than the opportunity costs of foregone timber production.

E WEBSTER, DENNIS B., and DANIEL V. GOULET. Modularity, a concept in simulation methodology. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 29-37. 1978.

III APPLIED TO FOREST PRODUCTION

Simulation procedure allows alternate, detailed simulation models to be constructed without extensive reprogramming effort. Method is applied to forest harvesting simulation.

IV APPLIED TO MANUFACTURING

A1a FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, Forestry Department. 1977 yearbook of forest products 1966-1977. In English, Spanish, and French. Food and Agriculture Organization of the United Nations, Rome. 462 pp. 1979.

Commodities reported include: roundwood, sawnwood, wood-based panels, pulp, paper, and paperboard.

A1b BURCH, W. G. The role of integrated forest companies in Western Canada. Forestry Program, The University of Alberta, Mar 15, 1978. Forest Industry Lecture Series No. 2, 16 pp. 1978.

Problems, strengths, and future. Regeneration of all logged lands followed by intensive forestry activity could make Canada the world's leader in production, utilization, and marketing of fibre.

A1b CANADIAN FOREST INDUSTRIES. Review '78, preview '79. Canadian Forest Industries 99(1): 51-56, 59, 61, 62. Jan 1979.

Annual review of the forest industry with reports from provincial ministers.

A1b FAHEY, THOMAS D., and EDWARD STAROSTOVIC. Changing resource quality, impact on the forest products and construction industries. Forest Products Journal 29(4): 39-43. Apr 1979.

Changes occurring in the timber resource base will affect the products available to the construction industry. Both the suitability of wood from managed stands for specific products and the energy demands of producing these products will determine what the forest products industry will use in construction. Trends for the sawmill, plywood, and particleboard industries, and for developing industries in structural particleboard and laminated veneer lumber.

A1b FORBES. Forest products and packaging. 31st Annual report on American industry. Forbes 123(1): 195, 198, 200-201. Jan 8, 1979.

In 1978, earnings for paper companies were up 8 percent and for wood products firms, up 16 percent. In 1979, paper companies' earnings should rise. Wood products companies' earnings should fall because housing starts are expected to decline.

A1b SHOLD, PEGGY, and JOHN FITTS. What's down the road in 1979? Wood & Wood Products 84(1): 21-23. Jan 1979.

IV APPLIED TO MANUFACTURING

Annual Industry Outlook Survey shows that 1979 should be a prosperous year for the wood industry. Representatives of the lumber, millwork, kitchen cabinet, furniture, wood container, and veneer/board/plywood industries responded to the survey. An "other" category represented those industries that did not fit into the above 6 groupings.

A1c CHOW, POO, DETLEF NOACK, and HANS-JOACHIM DEPPE. Utilization and specifications of wood and wood-base materials in West Germany. Forest Products Journal 28(12): 17-20. Dec 1978.

West Germany is the world's largest producer of particleboard, second largest producer of veneer, the tenth most important producer of industrial roundwood, and the sixth most important producer of paper and board products.

A1c LESNAYA PROMYSHLENNOST'. Growth figures, 60 years of forest industry. In Russian. Lesnaya Promyshlennost' No. 8, pp. 6-7. 1977.

Forest industry in the USSR.

A1e PLEYDELL, GEOFF. Tropical forest industries development, practicalities must prevail. World Wood 20(1): 22-24. Jan 1979.

Agreements between overseas companies and host governments must be based on mutual understanding.

A2 FOREST INDUSTRIES. Directory of panel plants. Forest Industries 106(4): 94-115. Apr 1979.

U.S. and Canada.

A2 NORTHERN LOGGER AND TIMBER PROCESSOR. 1979 Logging and processing operations. Northern Logger and Timber Processor 27(6): 49, 52, 53, 56, 57, 60, 61, 64, 65, 68, 69. Dec 1978.

Forest industry directory for the Northeast.

A2 SOUTHERN PULP AND PAPER MANUFACTURER. 40th Annual mill and personnel directory. Southern Pulp and Paper Manufacturer 41(10): 241 pp. Oct 1978.

A3 MAC KAY, DONALD. The Canadian logging frontier. Journal of Forest History 23(1): 4-17. Jan 1979.

Forest industry in Canada during the 19th century. Lumbermen: the barons and the shantymen.

IV APPLIED TO MANUFACTURING

B1 NEW ZEALAND LOGGING INDUSTRY RESEARCH ASSOCIATION. An interfirm comparison of logging firms. Report, New Zealand Logging Industry Research Association 2(1): 4 pp. 1977.

Financial status of 38 logging firms in New Zealand in 1976. Highly capitalized firms tended to be less profitable than less capitalized firms if the depreciation of their heavy capital equipment was not offset by increased productivity.

B1 TERVO, MIKKO. The cut of roundwood and its business cycles in Southern and Northern Finland by forest ownership groups, 1955-1975. In Finnish; Eng. sum. Folia Forestalia 365, 40 pp. 1978.

Roundwood cut on private forests has increased, while it has decreased on state and industry forests. Comparison of timing and size of annual fluctuations in the regional roundwood market and in the exports of Finnish forest products.

B2 KOCH, PETER. Five new machines and six products can triple commodity recovery from southern forests. Journal of Forestry 76(12): 767-772. Dec 1978.

Mixed southern pine-hardwood stands yield 20 to 22 percent of their biomass in wood products. New energy self-sufficient system using tree pullers, wet-fuel burners, mobile chippers, shaping-lathe headrigs, and continuous kilns can convert 67 percent of the biomass into products worth about $150 per dry ton. Products of the system are pallets, dowel-laminated crossties, structural exterior flakeboard, structural lumber glue-laminated from veneer, studs, and hogged fuel for plant energy.

B2 WECHSELBERGER, H. J. Centralized conversion of softwood smallwood. In German. Forst- und Holzwirt 32(11): 197-198, 200-203. 1977.

The system which includes centralized barking but not trimming does not effect enough savings to offset the cost of interrupted transport. To be profitable, a centralized primary conversion system should improve sorting or produce special assortments on demand.

B2 WU, S. C. Planning mountain logging operations, Taiwan. In English; Chin. sum. Bulletin, Experimental Forest, National Taiwan University No. 119, pp. 47-56. 1977.

Study of different logging systems in steep terrain.

IV APPLIED TO MANUFACTURING

B3a GOULET, DANIEL V., DONALD L. SIROIS, RONALD H. IFF, CATHY A. STUTTS, and MICHAEL P. BAILEY. Harvesting simulation models, an evaluation and review for use in the Southern United States. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 127-136. 1978.

Compares 8 forest harvest simulation models for use in the Southern United States.

B4 GLOTOV, E. T. The advantages of cable transport of wood. In Russian. Lesnaya Promyshlennost' No. 8, pp. 14-16. 1977.

B4 HARTSOG, WILLIAM S. Balloon logging in the Idaho Batholith, a feasibility study. USDA Forest Service Intermountain Forest and Range Experiment Station Res. Pap. INT-208, 16 pp. 1978.

Balloon logging proved feasible, environmentally acceptable, but financially unattractive.

B4 KELLY, K. J., and J. DIKKEN. Road spacing influences the selection of skidding equipment. In English: Fre. sum. Pulp and Paper Canada 79(11): 101-103, 105, 107-109. Nov 1978.

Wider spacing of feeder roads (likely because of environmental regulations) will make high-capacity clam bunk skidders more economical than conventional grapple systems.

B4 NORTHERN LOGGER AND TIMBER PROCESSOR. Helicopter logging comes to the Adirondacks! Northern Logger and Timber Processor 27(5): 4-5. Nov 1978.

Helicopter logging could be used successfully in the Northeast in areas that are inaccessible and where landowners want to minimize environmental damage. Otherwise, it cannot compete economically with conventional logging techniques.

B4 PFEIFFER, K. Comparison between use of a skyline crane and building of machine roads in the Strahlegg district. In German; Fre. and Ita. sum. Berichte, Eidgenossische Anstalt fur das Forstliche Versuchswesen No. 169, 46 pp. 1977.

From a cost standpoint, it was better to construct suitable roads and use tractor skidding. The skyline crane was less dependent upon the weather and caused less environmental damage.

IV APPLIED TO MANUFACTURING

B4 SKUDLAREK, L. Transport of smallwood. In German. Sozialistische Forstwirtschaft 26(2): 50-51. 1976.

It is more economical to transport smallwood as poles rather than as chips or cordwood.

B4 SMITH, CLAY. Skyline cable logging on the Fernow Experimental Forest. Northern Logger and Timber Processor 27(5): 20-21, 32. Nov 1978.

Skyline cable logging system was tested in West Virginia for 2 years by the Forest Service.

B4 TRATTNIG, B. Helicopter logging. In German. Allgemeine Forstzeitung 88(12): 347-348. 1977.

C1a ROBERTSON, W. J. H. Management trends in the softwood sawmilling industry in Southern Africa. South African Forestry Journal No. 106, pp. 10-11. Sep 1978.

Emphasis in softwood sawmilling industry management has shifted from production to marketing. Sawmilling firms must adapt themselves to changing economic conditions.

C1c FISCHER, K., G. POSNY, M. HOFMANN, and H. OTTO. Application of new methods to the control of production in the sawn timber industry of the German Democractic Republic. In German. Holzindustrie 30(3): 84-90. 1977.

Optimum conversion of sawlogs into lumber and of whole stems into sawlogs, using mathematical models and computer simulations.

C1c LANDMESSER, W., H. OTTO, and C. POLLMER. Optimal lumber/sawlog assignment. In German; Eng. and Rus. sum. Holztechnologie 18(1): 12-18. 1977.

Mathematical model for obtaining optimal sizes of lumber from roundwood.

C1c RICHARDS, D. B., H. Y. HALLOCK, and E. H. BULGRIN. Optimum value yield from hardwood logs by simulated sawing. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Products, The Netherlands. pp. 205-212. 1978.

IV APPLIED TO MANUFACTURING

Hardwood logs with defects were modeled, sawed, the boards graded, and the yield of various sawing methods evaluated by computer simulation. For most logs, live sawing plus reripping for grade was the best sawing method for boards cut of equal thickness.

C1c SAUNDERS, HENRY W. Hardwood sawing process for increasing recovery and improving production. Forest Products Journal 29(2): 21-29. Feb 1979.

New sawmill design increases lumber recovery and improves production. Process is intended for the production of hardwood squares and dowel stock, but the principles are applicable to other special products and hardwood lumber in general.

C1c SCREPETIS, GEORGE D. High quality logs, saw or sell? Southern Journal of Applied Forestry 3(1): 32-34. Feb 1979.

The break-even point for sawing or selling veneer class logs is higher than generally assumed by foresters and mill owners. The efficiencies of the mill operation and the sale of chips can make the net return from sawing logs greater than that from selling the same logs for veneer.

C2a BAYLISS, MARTIN. PPI projects survey 1979-82. Pulp and Paper International 21(2): 57-72. Feb 1979.

Third annual survey of capital expansions in the world's pulp and paper industry. Capacities, grades, equipment, and investment costs.

C2a BELANGER, GERARD. Structural and locational determinants of regional employment growth, a case study of the Canadian pulp and paper industry. Dissertation, Ph.D. University of Western Ontario. 1978.

Model applied to the Canadian pulp and paper industry for the period 1940 to 1971 to explain the growth of regional employment in the industry. Influence of changes in costs and prices faced by the industry on the growth of employment in different regions. Structural and locational components of regional differences in the growth of employment.

C2a BOGGS, CATHERINE J. Industrial structure of the pulp and paper industry in Michigan. M.S. Thesis. Michigan State University. 1977.

IV APPLIED TO MANUFACTURING

C2a EVANS, JOHN C. W. Modest, steady growth in capacity is forecast for the 1979-81 period. Pulp and Paper 42(14): 121-124. Dec 1978.

American Paper Institute survey indicates that growth rates for paper, paperboard, and kraft pulp will be above the 1970-78 period but below the 1956-69 period.

C2a MICHAELS, BILL. Optimistic study projects steady growth in newsprint use to 1985. Pulp and Paper 42(12): 166-168. Nov 1978.

Newsprint consumption in the U.S. should approach 12.5 million tons by 1985.

C2a MICHAELS, BILL. Price without pride, an industry gets tagged with price fixing label. Pulp and Paper 53(3): 122-129. Mar 1979.

Antitrust legislation has far-reaching effects on the paper industry.

C2a MICHAELS, WILLIAM T., and WILLARD E. MIES. Outlook 1979. Pulp and Paper 53(1): 68-85. Jan 1979.

Annual report on status of pulp and paper industry in U.S. and Canada.

C2a POLLITZER, STEPHANIE. Capital spending. Pulp and Paper 53(1): 125-132. Jan 1979.

Annual survey shows that mills in the U.S. and Canada are planning added capacity and mill improvements, and are spending less for environmental control.

C2a PULP AND PAPER INTERNATIONAL. 1979 Preview: moderate growth seen, problems abound. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 21(1): 55-57. Jan 1979.

Over-capacity, corporate indebtedness, and the declining U.S. dollar are problems facing the pulp and paper industry in 1979.

C2a ROGERS, MARK. An investment cycle theory of the paper industry. Tappi 62(1): 20-24. Jan 1979.

U S. paper industry should show an earnings gain of about 20 percent in 1979. Return on new investment should improve in the near future.

IV APPLIED TO MANUFACTURING

C2a SLATIN, BENJAMIN. The paper industry in the South, getting back on the track? Southern Pulp and Paper Manufacturer 41(10): 14-15, 17-19, 21-23, 26-27. Oct 1978.

The South occupies a major position within the paper industry of the U.S. Long-term demand for paper assures future growth of the industry.

C2a WETTERGREN, LIL. Disposable diapers spur demand for TMP. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 21(4): 63-66, 70. Apr 1979.

Disposable diaper production is the most rapidly growing segment of the disposable soft goods industry. Producers, wanting to use less expensive raw materials, have turned to mechanical pulps, particularly TMP.

C2b GLADEN, A. New computer control systems offer mills flexibility at reasonable cost. Pulp and Paper 53(2): 152-155. Feb 1979.

Permit on-line configuration changes that can be implemented by mill personnel for highly flexible, cost-effective control.

C2b GRANT, ROGER. Optimum is beautiful, small mills can work. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 20(13): 51-55. Dec 1978.

There is a place for small pulp and paper mills, even in industrialized countries. Economics of a small mill.

C2b HACKL, HARRY J. Small mills may be the only solution. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 20(13): 56-58. Dec 1978.

Small production units may be a necessity for developing countires that are just getting into pulp and paper production.

C2b KALISH, JOHN. Impressive Jari project in Brazil features pulp mill floated from Japan. Pulp and Paper 53(3): 96-99. Mar 1979.

Jari could become one of the world's major forest products centers within a decade.

IV APPLIED TO MANUFACTURING

C2b SALTMAN, DAVID. Paper basics: forestry, manufacture, selection, purchasing. mathematics and metrics, recycling. Van Nostrand Reinhold, New York. 232 pp. 1978.

Includes information on forest management for pulpwood, pulp and paper manufacture, and types of paper and their uses.

C2c BAIL, CECIL M. Sawdust pulping continues to grow, technology improves yield, strength. Pulp and Paper 53(2): 105-109. Feb 1979.

C2c BLYTH, JAMES E., and JAMES T. BONES. Pulpwood production in the Northeast and North Central States in 1977. Northern Logger and Timber Processor 27(6): 18. Dec 1978.

Pulpwood production increased 6 percent from 1976.

C2c FOREST FARMER. Pulpwood, changing sources of raw materials. Forest Farmer 38(4): 6-7. Feb 1979.

Southern pulpwood production rose 3 percent from 1976 to 1977. Chips and other residues captured 34 percent of the pulpwood market in 1977.

C2c RUSHTON, JAMES D., and JOHN P. HOWE. Wood utilization by the southern pulp and paper industry. Southern Pulp and Paper Manufacturer 41(6): 24-25, 29, 31-32. Jun 1978.

A continuing practice of efficient softwood utilization and more efficient hardwood utilization will be beneficial to the southern pulp and paper industry.

C2c WORSTER, H. E. Southern hardwoods are potential furnish for kraft linerboard mills. Southern Pulp and Paper Manufacturer 41(6): 14-16. Jun 1978.

C3a FOREST INDUSTRIES. Panel products shared in the remarkable market of 1978. Forest Industries 106(4): 34-[illegible]. Apr 1979.

Housing activity and general economic pace pushed plywood and board output to new levels.

C3a FORESTS & PEOPLE. Louisiana plywood industry boasts seven new plants. Forests & People 29(1): 19-23. 1979.

C4 BAUMANN, E., and R. SERMANN. Use of bark waste in plant production. In German. Holzindustrie 30(4): 116-117. 1977.

Horticultural use of bark residues.

IV APPLIED TO MANUFACTURING

C4 NORTHERN LOGGER AND TIMBER PROCESSOR. Wood chips in composting process. Northern Logger and Timber Processor 27(5): 12-13. Nov 1978.

Wood chips are being used experimentally in the windrow composting of sewage sludge.

C4 WITTERING, W. O. Harvesting forest residues. Forestry and British Timber 6(2): 31-32, 43. 1977.

UK Forestry Commission investigation of harvesting, chipping, and transporting forest residues and whole trees.

C6 HOWE, JOHN P. Concrete crossties, a challenge to the wood tie industry. Forest Products Journal 29(2): 15-20. Feb 1979.

U.S. and Canadian railroads have been experimenting with concrete crossties and have had satisfactory results. Railroads are interested in concrete crossties because they desire better tie performance, have doubts about the long-term supply of adequate-size timber, and are concerned about cyclic wood tie shortages. The wood tie industry must allay the railroads' concern about an adequate future supply of wood ties and should develop wood ties that are competitive with concrete ties both in cost and in performance.

C8 ROSE, DIETMAR W., and KAREN P. OLSON. Wood, an economical and reliable fuel for generating electricity in northern Minnesota. Journal of Forestry 77(2): 88-90. Feb 1979.

North-central Minnesota, with large surpluses of publicly owned timber, offers potential for commercial generation of electricity in small wood-fueled plants. Under some conditions such installations would be competitive with fossil-fueled plants.

C8 WILEY, ALLEN. Wood, a versatile energy resource. TF News 57, pp. 6-7. Fall 1978.

Many uses of wood for fuel.

C9 MACE, MONTE. Particleboard, a changing market. Wood & Wood Products 84(1): 24-25. Jan 1979.

Particleboard industry in the U.S.

IV APPLIED TO MANUFACTURING

C9 RAZZAQUE, M. A., and M. S. KHAN. Manufacture of low-cost building boards from immature gamar wood. In English; Beng. sum. Bano Biggyan Patrika 6(1): 58-67. 1977.

Good quality hardboard can be made at reasonable cost from infected gamar trees.

C10 BROWN, DANIEL H. How building codes affect wood markets. Forest Products Journal 29(1): 14-15. Jan 1979.

Building codes affect the use of wood in construction. Most wood industry associations provide input to code-writing bodies. Code recognition is probably the single most important aspect of product acceptance.

C10 ENGLUND, B. O. Wood-frame foundations for low-rise buildings, a feasible alternative? In Swedish. Meddelande, Svenska Traforskningsinstitutet, A, No. 440, 7 pp. 1977.

Theoretical considerations and American experience in this field. Scandinavian test houses.

C10 SCHICK, BRUCE A., and ANDERS GRINELL. Yellow-poplar framing lumber: producer, distributor, user, and specifier opinions. Forest Products Journal 29(1): 16-20. Jan 1979.

Survey of lumber producers, architects, lumber wholesalers, retailers, and homebuilders to assess their opinions about the use of low-grade yellow-poplar for framing lumber.

C11 BENNETT, C. P. Wooden pipelines. Chartered Mechanical Engineer, pp. 70-73. Jun 1977.

Future development of wooden piping to replace steel pipelines for oil and natural gas. Advantages of wooden pipelines over steel pipelines: high strength/cost ratio; lower freight and field-handling costs; less environmental damage in production; much less risk of catastrophic unstable line breaks; negligible thermal stress; increased strength at low temperature; and reduced need for thermal insulation.

C11 SCHATTINGER, B. History of pencil manufacture, especially of mechanical and screw-type pencils. In Czech. Drevo 32(2): 49-51. 1977.

History of both wooden and plastic pencils.

V APPLIED TO MARKETING, TRADE, AND DEMAND FOR FOREST OUTPUT

A1 HAYNES, RICHARD W., and DARIUS M. ADAMS. Impacts of RARE II withdrawals on softwood prices, consumption, and production. Journal of Forestry 77(4): 230-233. Apr 1979.

Withdrawing all RARE II roadless areas could raise U.S. lumber prices by about 4 percent and reduce domestic lumber consumption by 3 percent by the year 2000. Wood production would decrease in the Douglas-fir and Rocky Mountain regions and increase in the South.

A2 SCHULER, ALBERT T. An econometric analysis of the U.S. hardboard market. USDA Forest Service Northeastern Forest Experiment Station Res. Pap. NE-424, 7 pp. 1978.

Econometric model of U.S. hardboard consumption identifies the major variables affecting hardboard consumption and price. Variables identified include: housing starts, residential improvement activity, disposable personal income, hardwood plywood price, productivity, pulpwood and residue price, hardboard tariff, and power cost. Disposable personal income is the most important of these variables. Annual projections show consumption increasing by 60 percent and price by 133 percent by the year 1990.

A2 SCHULER, ALBERT T. The insulation board industry, an econometric analysis. USDA Forest Service Northeastern Forest Experiment Station Res. Pap. NE-407, 8 pp. 1978.

Econometric model of the U.S. insulation board industry identifies and quantifies the major factors affecting quantity consumed and price. Factors identified include: housing starts, residential improvement activity, disposable personal income, productivity, pulpwood and residue prices, and power costs. Disposable personal income is the most important of these factors. Annual projections show quantity increasing by 30 percent and price by 106 percent by the year 1990.

B1a ADAMS, M. J. Marketing training is essential in planning forest industries. Forest Products Journal 29(3): 12-14. Mar 1979.

Marketing specialists play a vital role in guiding resource management and production to match consumer demand. A marketing specialist needs a background in wood technology and processing, resource management, and marketing.

B1a BRAKEL, PIETER. Production relationships, market structure, firm behavior, and the supply of exports: an application to the Canadian forest products industries. Dissertation, Ph.D. University of Toronto. 1977.

V APPLIED TO MARKETING, TRADE, AND DEMAND FOR FOREST OUTPUT

Supply side of foreign trade at the industry level. The forest products industry, as a whole, sets a common price for the U.S. and Canadian markets. The price is based on long-run marginal or average cost, as well as on the industry's ability to supply the quantities demanded at the marginal cost mark-up price. Canadian firms largely follow price movements of U.S. competitors, independent of changes in domestic costs. Canadian firms or foreign subsidiaries operating in Canada exercise significant market power only in the North American market and not in the overseas market.

B1a FIELD, DAVID B. SORTIM, a model for the simulation of regional timber markets. In Simulation Techniques in Forest Operational Planning and Control, IUFRO Proceedings, Working Party S 3.04.01, Agricultural University, Department of Forestry Technique and Forest Produts, The Netherlands. pp. 163-171. 1978.

Digital computer simulation model designed for the experimental study of regional markets for wood and wood-based products. Model estimates the ability of a new enterprise to become established in an existing market and can predict that enterprise's impact on the market.

B3 BRADBURY, CATHRIN. Lumber and markets. Canadian Forest Industries 99(1): 37-38. Jan 1979.

Markets for Canadian lumber were among the best ever in 1978 and are expected to remain strong during the first half of 1979.

B4a MICHAELS, BILL. International trade holds many benefits for the paper industry. Outlook 1979, international. Pulp and Paper 53(1): 98-101. Jan 1979.

American Paper Institute executive discusses liberalization of international trade laws and the need for government and industry to become more export-conscious.

B4a YASU, KINJI. Paper distribution today in Japan. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 21(2): 47-50. Feb 1979.

Two-tier system of agents and wholesalers with the agents channeling the bulk of all paper and board directly to the consumer. Price lists are not used, and payment involves extensive use of long-maturity promissory notes, which help combat cash shortages.

V APPLIED TO MARKETING, TRADE, AND DEMAND FOR FOREST OUTPUT

B4b FREY, TED. Softwood supply trends on the Pacific Rim. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 21(3): 57-60, 63. Mar 1979.

More fiber will be going to Japan from British Columbia in the form of bleached pulp and not as wood chips for processing in Japan.

B5 LEE, J. K. Studies on the market for wooden furniture of Taiwan. In Chinese; Eng. sum. Bulletin, Experimental Forest, National Taiwan University No. 119, pp. 97-121 1977.

How the growth of the industry is affected by housing construction, GNP, prices, population structure, income, and export trends; distribution channels and pricing; consumer behavior; and the effects of changes in import duties and freight rates on the export trade.

C1 FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, Forestry Department. Forest products prices 1960-1977. In English, Spanish, and French. Food and Agriculture Organization of the United Nations, Rome. 84 pp. 1979.

Fuelwood, charcoal, stumpage fees and royalties, pulpwood, logs, sawnwood, plywood, particleboard, fibreboard, wood pulp, and paper.

C2 OHKITA, E. On Shijokagyakusanshiki, the formula for stumpage price net of logging cost. In Japanese. Forest Economy 31(9): 21-25. 1978.

C3 CROTHERS, CHARLES M. Midsouth pulpwood prices, 1977. Southern Pulp and Paper Manufacturer 42(2): 20. Feb 1979.

Pulpwood price increases over the last 10 years are mainly due to inflation; real costs have remained stable.

D PULP AND PAPER INTERNATIONAL. Latest trends in transport and handling. In English; Fre., Ger., and Spa. sum. Pulp and Paper International 20(13): 75-80. Dec 1978.

PPI's 3rd Transport and Handling Symposium, held in Vancouver, B.C., in Sep 1978, discussed the transport, distribution, and handling techniques of the pulp and paper industry.

D ZITTO, FRED M. Greater demand for rolling stocks brings on higher railroad tariffs. Pulp and Paper 53(4): 154-156. Apr 1979.

V APPLIED TO MARKETING, TRADE, AND DEMAND FOR FOREST OUTPUT

Need for a continuing close working relationship between woodfiber shippers and railroads.

I N D E X

This list is to help users of the bibliography find the references they are looking for. The words provide entry into the appropriate sections of the bibliography. The index is best used in conjunction with the Subject Matter Classification Scheme, republished at the front of this issue. For example, if the user enters the index at Administration, forest, he is referred to Section III of the bibliography, because to be more specific would require subdividing the topic essentially as the Classification Scheme does. The user's next step then, is to turn to the Scheme, where he finds that forest administration in general is IIIA1, administration pertaining to forest roads is IIIC, and so on.

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Accounting (see Planning and plan)

Acreage (see Area)

Administration
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- forestry program IC
- personnel, IIA
- professional, subprofessional affairs, IF
- research, IE

Advertising, V

Aesthetic value (see Amenities)

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Africa
- forestry at large, IB5
- manufacturing, IVA1e
- (See also Union of South Africa)

Allowable cut, IIIB5

Alternatives
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- manufacturing, IVA4

Amenities, IIIA5
- integrated forestry, IIIA1
- land use, IIC

Appraisal (see Valuation)

Area
- forestry at large, IB
- land, IIC
- ownership, IIB
- policy, program, IC

Argentina
- forestry at large, IB4
- manufacturing, IVA1d

Asia
- forestry at large, IB5
- manufacturing, IVA1e
- (See also China; Japan; Taiwan; USSR)

Assessment (see Valuation)

Auction (see Market and marketing)

Australia
- forestry at large, IB4
- manufacturing, IVA1d

Balloon logging, IVB

Bark, IVC4
- demand, VA
- harvesting, IVB
- manufacturing, IVC4
- marketing, VB5
- price, VC3
- transportation
  - harvesting, IVB4
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  building (see Pulp and paper)
  composition (see Composition board)
  paper (see Pulp and paper)

Boards (see Lumber)

Bond, IID2

Box (see Lumber; Pulp and paper)

Brashing, IIIB4

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  genetic production, IIIE
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Building board (see Pulp and paper)

Burning (see Fire)

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Chips (see Pulpwood and chips)

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